

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P563165

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-82-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563165
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-4-LD4-3HI-40-UNV-82-96-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13370.0 lumens
Efficiency: N/A
Efficacy: 103.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

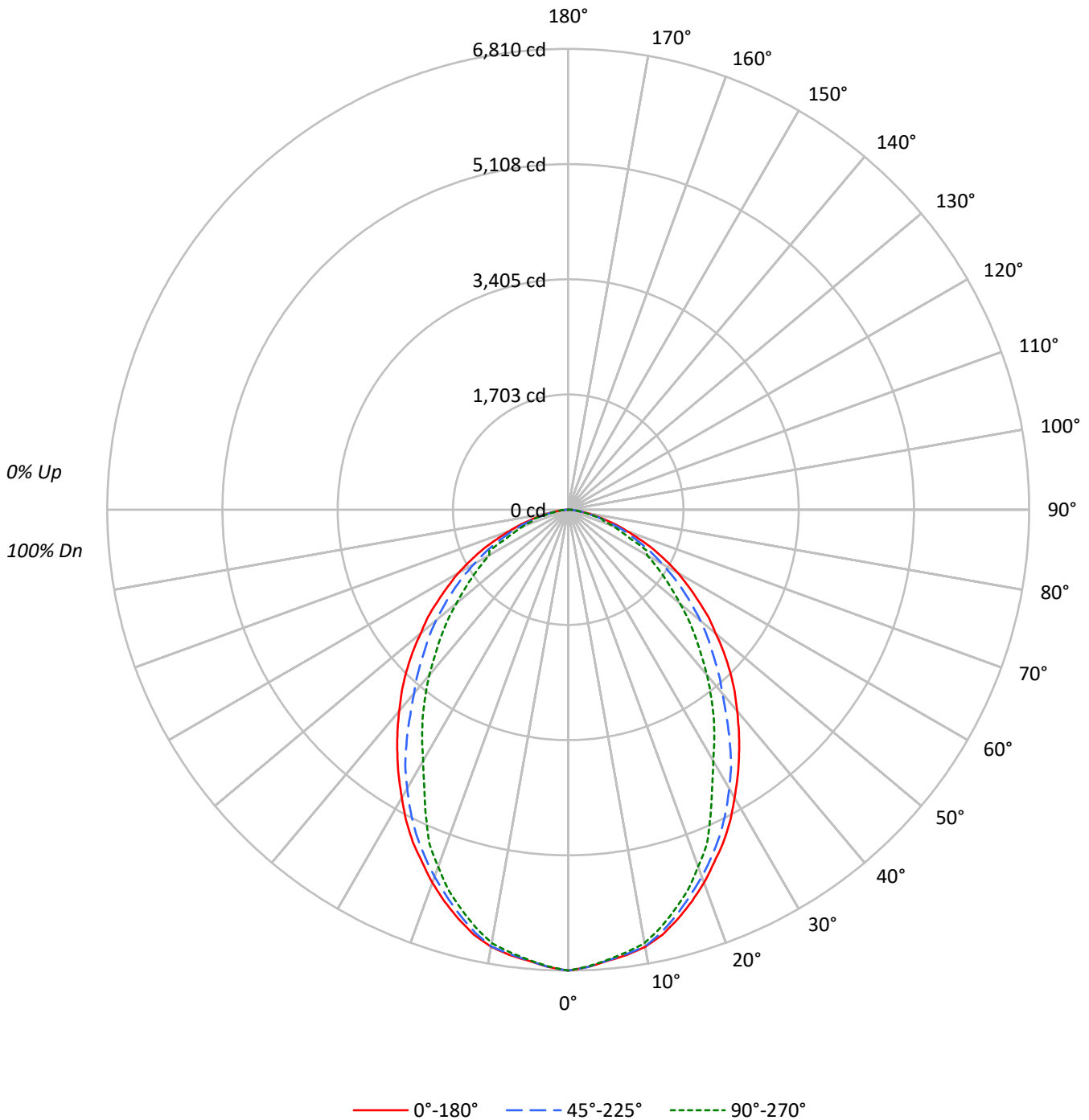
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									20									
RC	80									70									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100												100																
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87												87																
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75												75																
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65												65																
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56												56																
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50												50																
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44												44																
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40												40																
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36												36																
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33												33																
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30												30																

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9163	9163	9163
5°	9039	9028	9018
10°	8961	8950	8885
15°	8719	8631	8511
20°	8399	8263	8038
25°	8054	7878	7387
30°	7633	7388	6654
35°	7229	6828	6156
40°	6818	6223	5601
45°	6427	5753	5064
50°	5950	5340	4516
55°	5504	4839	4045
60°	5043	4322	3623
65°	4437	3785	3209
70°	3655	3314	2726
75°	2906	2538	2661
80°	1952	1830	1709
85°	1215	1459	1701

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6427 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	634.0	4.7
10°-20°	1739.9	13.0
20°-30°	2408.7	18.0
30°-40°	2568.4	19.2
40°-50°	2343.1	17.5
50°-60°	1835.7	13.7
60°-70°	1196.4	8.9
70°-80°	530.1	4.0
80°-90°	113.8	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	4782.6	35.8
0°-40°	7351.0	55.0
0°-60°	11529.8	86.2
0°-90°	13370.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13370.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6810	6810	6810	6810	6810	
5°	6692	6684	6684	6677	6677	635
15°	6259	6259	6196	6133	6110	1760
25°	5425	5393	5307	5118	4976	2491
35°	4401	4370	4157	3842	3748	2752
45°	3378	3307	3023	2771	2661	2602
55°	2346	2275	2063	1819	1724	2104
65°	1394	1315	1189	1212	1008	1373
75°	559	520	488	464	512	599
85°	79	87	94	102	110	109
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6810.5	6810.5	6810.5	6810.5	6810.5
2.5°	6763.3	6763.3	6763.3	6755.4	6755.4
5°	6692.4	6684.5	6684.5	6676.7	6676.7
7.5°	6637.3	6629.4	6621.5	6613.7	6597.9
10°	6558.6	6558.6	6550.7	6511.3	6503.4
12.5°	6432.6	6424.7	6393.2	6338.1	6322.3
15°	6259.4	6259.4	6196.4	6133.4	6109.8
17.5°	6070.4	6062.5	5983.8	5920.8	5889.3
20°	5865.7	5849.9	5771.2	5668.9	5613.7
22.5°	5637.4	5637.4	5542.9	5409.0	5353.9
25°	5424.8	5393.3	5306.7	5117.7	4976.0
27.5°	5180.7	5133.5	5039.0	4771.3	4605.9
30°	4913.0	4889.4	4755.5	4409.1	4283.1
32.5°	4661.1	4621.7	4480.0	4117.8	4015.4
35°	4401.2	4369.7	4157.2	3842.2	3747.7
37.5°	4141.4	4102.0	3834.4	3582.4	3464.3
40°	3881.6	3834.4	3543.0	3314.7	3188.7
42.5°	3637.5	3574.5	3291.1	3047.0	2905.3
45°	3377.7	3306.8	3023.4	2771.4	2661.2
47.5°	3117.9	3054.9	2795.1	2535.2	2409.3
50°	2842.3	2787.2	2551.0	2291.2	2157.3
52.5°	2614.0	2527.4	2299.0	2039.2	1929.0
55°	2346.3	2275.4	2062.8	1818.8	1724.3
57.5°	2102.2	2031.3	1834.5	1606.2	1527.4
60°	1873.9	1771.5	1606.2	1409.3	1346.4
62.5°	1621.9	1543.2	1401.5	1236.1	1314.9
65°	1393.6	1314.9	1188.9	1212.5	1007.8
67.5°	1141.6	1102.3	992.0	881.8	850.3
70°	929.1	881.8	842.5	724.4	692.9
72.5°	740.1	692.9	637.7	574.8	551.1
75°	559.0	519.6	488.2	464.5	511.8
77.5°	385.8	370.1	346.4	322.8	314.9
80°	251.9	244.1	236.2	228.3	220.5
82.5°	149.6	149.6	149.6	149.6	149.6
85°	78.7	86.6	94.5	102.4	110.2
87.5°	47.2	47.2	55.1	63.0	70.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)